

37 C.F.R. 1.56, the Information Disclosure Statement also includes the Japanese (Takahata, et al) reference considered during the prosecution of cited Huston et al 5,364,093.

It was acknowledged by the Examiner, that claim 25, and claims 26-35 dependent thereon, in their originally presented form, were not disclosed nor suggested by the art of record. Accordingly, they are being retained without amendment for possible further search by the Examiner.

Independent claims 38 and 49, consistent with the discussions held with the Examiner, are being amended to include additional novel features of applicant's system. Accordingly, it is respectfully submitted that independent claims 38 and 49, as well as claims 39-48 and 50-53 dependent thereon, are likewise in condition for allowance.

Applicant has, as discussed with the Examiner, corrected the insert to the specification at page 13, line 5 to overcome the rejection noted in paragraph 1 of paper no. 4. As discussed at the interview, the antecedent basis for the utilization of luminescent radiation is provided in originally filed claim 34.

In response to the Examiner's request for a further explanation of dependent claim 14, the "projected trajectory" is based on the disclosure in applicant's specification at pages 9 and 21-22. Namely applicant's computer system enables the player to ascertain the position of the golf ball which is likely to be obtained under certain conditions, e.g. the particular club selected by the player for proceeding from the current lie of the golf ball. For further clarification "projected trajectory" has been changed to "the calculated position" and appropriate amendments made to the Specification consistent with the original disclosure.

The objection made to claim 54 under Rule 121 (paragraph 3 of paper no. 4) is also being corrected by the instant amendment.

Claim 36 had been rejected under 35 U.S.C. Section 102(e) as being anticipated by Slye et al U.S. Patent No. 5,261,820 (the Slye patent). Claims 1-18 and 20-35 had been rejected under 35 U.S.C. Section 102(e) as being anticipated by Barber U.S. Patent No. 5,254,537 (the Barber Patent). Claims 1-35 and 37-54 had been rejected under 35 U.S.C. Section 102(e) as being anticipated by the newly cited Huston et al U.S. Patent No. 5,364,093 (the Huston Patent).

Claim 54 had been rejected under 35 U.S.C 102(e) as being anticipated by Dudley U.S. Patent No. 5,326,095 (the Dudley Patent).

The prior art was extensively reviewed during the course of the interview, at which time it was agreed that applicant's system provides numerous features not present in this prior art, whether considered alone or in combination. Considering first the Slye patent, which was solely cited with reference to claim 36, that patent is directed to a video game, such as an airplane dog fight. During the playback of a prior game, new commands can be entered. However, upon the entry of the new commands, all prior commands are pre-empted and the user can then affect the action of the game from that point. That is, the entire game subsequent to that point will then be altered (see abstract last 4 lines; column 1 line 59-66 and column 2 lines 29-37). This would be expected in the type of game which is the subject matter of the Slye patent. For example, if the user would determine to enter a new type of aircraft, this change would affect all of the previously recorded game from that point forward. Therefore, new results would be achieved for all of the subsequent portion of the game. This is to be contrasted to applicant's golf replay feature which will permit a player to ascertain the anticipated change and result of performance on an individual hole if an alternate club is selected for at least one stroke. The replay apparatus will appropriately alter the result of the player's performance on that hole for which an alternate club was selected **while retaining the player's performance on all previously and subsequently played holes.** That is, if an alternate club is selected for hole 10 (ten), it will only change the anticipated performance for hole 10 (ten) and not for all subsequent holes. It should again be noted that in Slye once a change is made, it pre-empts **all** subsequent commands. Accordingly, claim 36 has been amended to recite:

"said replay means altering the result of the player's performance on the hole for which an alternate club has been selected while retaining the player's performance on all previously and subsequently played holes."

Accordingly, as agreed during the interview, claim 36 is now in condition for allowance.

Consideration will now be directed to applicant's system in conjunction with the art cited against the other claims in the case.

Applicant provides a multi-faceted portable golf computer which has the capacity of

receiving a variety of inputs in providing information to the player to assist in playing the game of golf, and thereby enhancing player performance, while speeding up the game. Among its several features:

Applicant's system can at each hole, in addition accurately locating the present position of play:

Alternatively display (a) the entire fairway, (b) the approach to the green, or (c) the green. These three views of a typical hole are shown in applicant's figures 4a, 4b and 4c. This advantageously permits the most significant information to be displayed to the player, dependent upon position on the hole. For example, when the player is at the tee, it would be desired to see the entire hole with accurate distances to hazards and the hole. As the player progresses down the fairway, there is little need to see the previously traversed portion of the hole. Hence the approach shot display of figure 4b is particularly helpful. As the player proceeds down the fairway and is about to shoot for the green, the display of figure 4c is particularly helpful.

The golf computer includes a means for inputting stroke data so as to maintain the player's score.

The golf computer includes means for inputting betting data. This advantageously does not distract from the continuous performance of the game, while enhancing the additional interest in the game typically engaged in by player groups.

The computer advantageously inputs the player's prior performance, indicative of skill level, in making a recommendation for the golf club to be used at a particular situation.

In order to further refine the golf club selection, whether made by the computer or the individual player, the computer may provide an indication of wind speed or direction and ambient temperature, since these parameters can affect the trajectory of the golf ball.

Means are provided for inputting both the daily cup positions (figure 14) and daily tee positions (figure 15). This information must naturally be known in order to provide an accurate display of the hole, and in particular, the distances required for playing the hole and selecting appropriate clubs. The absence of the daily tee position would be particularly disadvantageous, since the player would not know the distances from the tee to hazards typically encountered on

a tee shot, and in a par three hole the distance to the cup.

A removable and writable memory card may be coupled to the processor means for conveniently inputting the individual player's information into the portable computer. That card can also include the scoring and betting data, with the scoring data including one or more individual games.

The location of the golf computer, typically installed on a golf card can be instantaneously obtained by the use of several alternate systems, which may include association with earth orbiting satellites (the GPS system).

The information obtained within the memory means of the portable golf computer can be readable by a central computer suitable for tracking the performance of multiple golfers. This may include transfer by an energy pathway, which may include infrared radiation, a wireless data link, or luminescent radiation.

The portable golf computer may receive a signal from at least one transmitter which is positioned on the golf course. According to one of applicant's embodiments, the transmitter may be located above the surface of and external to the fairway of the hole being played.

As discussed during the course of the interview, the cited art is devoid of many of the advantageous features which may be present in applicant's system.

The Barber patent, which utilizes an accelerometer to record the players movement along the hole being played requires visual orientation to a reference point at each of the individual holes, which such visible mark being typically a tree or a rock (column 3 lines 63-66).

In operation, the player upon the initial play at each of the holes must first manually orient a hand held device by pointing it in the direction of this visible orientation point. This is typically shown as 28 in figure 2, with the requisite operation described at column 3 lines 60-66. That is, there is no automatic location of the golf computer along the golf course, as the player proceeds from hole to hole. In utilizing the system shown in the '537 while playing eighteen holes of golf, the user would have to manually orient the device to eighteen different visible reference points, (one at each of the eighteen holes), in order to initiate operation of the '537 position locator as the user proceeds through the golf course.

After this initial orientation, the movement of the player is determined by an accelerometer which is used to measure displacement along the individual hole (again referenced to the individual one of the eighteen reference points positioned within the golf course). In contradistinction to the '537 patent's substantial reliance on manual referencing, and initial setup at each of the eighteen holes, applicant's position sensing means automatically and accurately locates the portable golf computer within the golf course.

As acknowledged during the course of the interview, the Abstract of the Barber patent was misleading, resulting in the Examiner to previously improperly conclude that once Barber gets the position of the player at hole one, the position on the player of the golf course will be automatically determined (paper no. 4, paragraph 10). Such an interpretation is inconsistent with the detailed explanation of Barber which requires reorientation at each of the eighteen individual holes.

Further, Barber will only provide a display of the entire hole, (figure 6) or the green (figure 7). Barber does not provide a display which gives the approach to the green, as in applicant's figure 4(b).

Barber is also lacking numerous other features present in applicant's claimed system.

The newly cited Huston patent utilizes the GPS satellite system in association with a golf course in only a very limited manner. The golf distance measuring system disclosed therein utilizes the GPS system to locate the cup and position of the receiver on the golf course. The daily tee positions are not inputted into the system. The display (figure 1) will only show the entire hole, as well as readouts of the distance between the receiver and the cup, and the receiver to points on the course **which are manually determined by the player**. Among its other limitations with respect to applicant's system, Huston does not: (1) provide for several views of the same hole; (2) does not provide for club recommendations based on individual player performance; (3) does not automatically provide the successive steps for the player to complete the hole, with club selection based on the player's individual performance; (4) does not input ambient (temperature and wind) conditions; (5) does not provide for betting input and computation.

The Dudley patent, which has only been cited with reference to claim 54, buries a series of transmitters along the fairway which are intercepted by the golf cart unit to provide only distance information. The location of such buried transmitters are typically shown in figure 1 with the limited display information shown in figure 7.

These prior art teachings are limited to their disclosures, which lack numerous applicant's claimed advantageous features.

As held in In re Randol and Redford 165 USPQ 586 (CCPA 1970)

"we are persuaded that application of the well-settled principle that prior patents are references only for what they clearly disclose or suggest and that is not proper use of a patent as a reference to modify its structure to one which prior art references do not suggest, calls for reversal of this rejection."

When the prior art fails to suggest the claimed invention, as it does here, any reconstruction of the prior art to obtain that invention necessarily and inevitably requires impermissible hindsight. As explained by the CAFC in W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13, (Fed. Cir. 1983)

"To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

"It is difficult but necessary that the decision-maker forget what he or she has been taught at trial about the claimed invention and case the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art."

Disclosures in a reference that diverge and teach away from an invention, such as Barber's need to fix on a visible reference point at the start of each of the eighteen holes can not be disregarded. (see The Gillette Company v. S.C. Johnson and Son, Inc., 16 USPQ 2d 1923, 1927 (Fed. Cir. 1990). As was the situation in Dow Chemical Company v. U.S., 18 USPQ 2d 1657, 1662 (Ct. Cl. 1990) Barber is a "teaching away" from the invention under consideration, particularly since that reference does not provide any reason or motivation for making applicant's invention (In re Laskowiski, 10 USPQ 2d 1397, 1398 (Fed. Cir. 1989)).

Recognizing applicant's myriad of advantages over the prior art, the claims have been amended, as discussed during the interview to further specify these distinctions. More specifically:

Independent claim 1, which had been previously rejected on the basis of both the Barber and Huston patents now recites that the display means displays **one of the three specified views with data of the particular hole as determined by its current location on the golf course.** Additional distinctions are set forth in many of its dependent claims 2-17 and 37. Accordingly, it is respectfully submitted, consistent with the agreement reached during the course of the interview, that claims 1-17 and 37 are in condition for allowance.

Independent claim 18 which had been rejected on the basis of both the Barber and Huston patents, has been amended to recite that the processor means, which is responsive to the position sensing means, causes the display means to automatically display **a particular one of the scenes for a particular hole as determined by the sensed location of the portable golf computer at said hole.** A corresponding amendment has been made to claim 19. Accordingly, claims 18, 19, and dependent claims 20-24 are likewise in condition for allowance.

Claim 54, which had been rejected as being anticipated by the Dudley patent, has been amended to indicate that is directed to applicant's embodiment where the signal means is **above the surface of and external of the fairway**, and that the processor means will cause the display means to display **a scene representative of the geographic layout of the golf course which is determined by the current location of the portable computer on the golf course in conjunction with data representative of the current location.** As discussed during the interview, claim 54 as amended patentably distinguishes over the Dudley patent.

As requested by the Examiner, independent claims 38, 49 and 53 have been amended to include features of applicant's system which are not shown nor suggested by the cited art. Accordingly:

Claim 38 now includes the "means for inputting the daily tee positions at each hole of the golf course (applicant's figure 15)".

Claim 49 has been amended to further recite the "means for inputting and updating

individual player's performance" with the mobile computer, in addition to communications its GPS determined location communicating player performance.

Claim 53 has been amended to further specify the ability of the system to assist the golfer's performance on the golf course, by presenting to the processor means both information representative of the player's skill, and the current location. Hence, the processor will thereafter be able to provide the player with individually customized assistance for completing the play on the particular hole being played with the visual display providing such assistance information as referenced to the current location.

Accordingly, it is believed that claims 38, 49, and 53, as well as their dependent claims 39-48 and 50-52 recite patentable subject matter.

With respect to the Examiner's previous rejection of claim 36 as being a substantial duplicate of claim 19 (paper no. 4, paragraph 9) is to be noted that dependent claim 37, which incorporates the subject matter of claim 1, specifies the three different views of the hole with the display means displaying a selective one of said three views.

Together with the Information Disclosure Statement accompanying this amendment, is a check in the amount of \$210.00, in accordance with 37 C.F.R. 1.97 (c).

Applicant also notes the outstanding Draftsperson's review (PTO-948). Formal drawings will be submitted upon the issuance of a Notice of Allowance.

In view of the above, it is respectfully submitted that the subject application is in condition for allowance with claims 1-54 and such allowance is respectfully requested. Should the Examiner require any additional information or believe that further amendments to the claims may be desirable, it is respectfully requested that he telephone applicant's undersigned attorney in order to expedite the prosecution of the case.

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Respectfully submitted,



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